

If we wanted to calculate the excess supply at the original price we could simply put the price of \$4 into the above functions:

$$Q_D = 1,400 - 200P$$

$$Q_S = -400 + 400P$$

$$Q_D = 1,400 - (200 \times 4)$$

$$Q_S = -400 + (400 \times 4)$$

$$Q_D = 1,400 - 800 = 600 \text{ units}$$

$$Q_S = -400 + 1,600 \\ = 1,200 \text{ units}$$

So at a price of \$4 Q_D is 600 units and Q_S is 1,200 units, so there is an excess supply of $1,200 - 600$, i.e. 600 units.

Student workpoint 3.3

The demand and supply functions for a product are given below:

$$Q_D = 900 - 100P$$

$$Q_S = 200P$$

- 1 Make a table to show the demand schedule and supply schedule for the product when prices are \$0, \$1, \$2, \$3, \$4, and \$5.
- 2 Draw a diagram to show the demand curve and supply curve that represent the demand and supply schedules that you have made.
- 3 Illustrate the equilibrium price and quantity bought and sold.
- 4 Using simultaneous equations, calculate the equilibrium price and quantity.

Now let us assume that the supply function for the product changes to:

$$Q_S = -300 + 200P$$

- 5 Make a new table to show the supply schedule for the new supply function when prices are \$0, \$1, \$2, \$3, \$4, and \$5. (Hint: supply may not take place at some of these prices.)
- 6 Add the supply curve that represents the new schedule to the diagram that you drew in 2.
- 7 Illustrate the new equilibrium price and quantity bought and sold.
- 8 Using the concept of excess demand, and referring to your diagram, explain why the equilibrium price and equilibrium quantity demanded and supplied have changed.
- 9 Finally, identify and explain two factors that might have caused the change in the original supply function.